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PATENT SPECIFICATION 1,034,911

DRAWINGS ATTACHED.

1,034,911

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COMPLETE SPECIFICATION.

Improvements in and relating to Rotary Rake Head Haymaking Machines.

We, MASCHINENFABRIK FAHR A.G., of Gottmadingen, District of Constance, Germany, a German Company, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a rotary rake head haymaking machine having driven rake heads mounted adjacent to each other on a cross beam of which at least a part can swing upwards.

An upwardly swingable cross-beam part gives good adaptability of its rake heads to irregularities of the ground during operation and also, in known machines, facilitates reduction in width of the machine for transport, outer end cross-beam parts being then swung upwardly substantially at right angles to the ground.

In known machines however, rake heads remaining in the central portion of the machine necessitate lifting of the machine to prevent the tines from striking against the ground during transport. This can be done by the power lift of a tractor but it is undesirable to keep the hydraulic mechanism in the lifted position during transport, even if special holding means are provided in the hydraulic mechanism for a transport position. It sometimes happens that the holding means are not put into operation by the driver, either intentionally or by oversight, and, if the hydraulic mechanism fails during transport, the machine drops and may cause damage or even a road accident.

It is therefore an object of the invention to provide an arrangement whereby a rotary rake head haymaking machine can be brought into a transport position without it being necessary to use hydraulic lifting mechanism.

According to the invention, in a rotary rake head haymaking machine having driven rake heads mounted adjacent to each other on a cross-beam, two cross-beam parts are connected to a gear box, for the drive to the rake heads, and at least one cross-beam part is pivoted to the gear box so that the two cross-beam parts can be relatively swung one towards the other and both raised to a secured position in which the rake heads are clear of the ground for transport.

Both cross-beam parts may be pivoted to the gear box or one may be fast with the gear box which is then pivoted for raising such cross-beam part clear of the ground.

Further features of the invention are included in the following description, by way of example, of two embodiments of the invention which are illustrated on the accompanying drawing, in which:—

Fig. 1 is an end view of a rotary rake head haymaking machine, seen in the direction of travel, in the working position.

Fig. 2 is a similar end view of the machine of Fig. 1 in the transport position.

Fig. 3 is a section on the line III—III of Fig. 1 and

Fig. 4 is a horizontal axial section through the gear box of a rotary rake head haymaking machine according to another embodiment of the invention.

The rotary rake head haymaking machine shown in Figs. 1 to 3, has a gear box 1 to which are pivoted cross-beam parts 2 and 3 extending transversely of the direction of travel and swingable in a vertical plane. The cross-beam parts 2 and 3 have fork ends 4 by which they are pivoted to lugs rigidly secured to the box 1. Both cross-beam parts

[*Price 4s. 6d.*]

2 and 3 have driving shafts 6 and 7 on which are mounted rake heads 8 and 9.

On one or both of the cross-beam parts, the rake head 8 is supported by a wheel 10 on a fixed mounting to relieve the power lift from load during working, and the rake head 9 is supported by means of a vertically sprung wheel 11 of which the mounting is shown on a larger scale in Fig. 3. The wheel 11 is mounted on one end of a pivotal arm 12 of which the other end is connected by a link 13 to a bearing sleeve of the driving shaft 7. The wheel end of the pivotal arm 12 is connected by a link 14 to a sliding sleeve 15 on which rests the hub of the rake head 9. The linkage system is spring-loaded so that, if the wheel 11 encounters a bump in the ground, the wheel 11 and hence the sleeve 15 and the rake head 9 will lift and will lower again when the bump has been passed.

The box 1 is rigidly connected to a three-point bracket 16 for connection to a tractor, in known manner, by a three-point attachment comprising an upper link 18, variable in length by means of a screw joint 17, and two lower links 19. By means of the joint 17, the rake heads can be so adjusted that, during operation, their tines are directed forwardly in the direction of travel.

For bringing the machine into transport position, the cross-beam parts 2 and 3 are swung upwardly, into the position shown in Fig. 2, and connected together in this position by means of hook 20 and eye 21. In this transport position, the haymaking machine can travel by road with the power lift of the tractor relieved of load.

If a lower lifted position of the rake heads is considered adequate for transport, then, as shown by Fig. 4, a gear box 22 may have a tubular pivot stub 23 journalled in a housing tube 24, extending substantially in the direction of travel, rigidly connected to a three-point bracket 25. The driving shaft 26 passes through bearings in the stub 23. The stub 23 can be held in alternative angular positions in the tube 24 by means of a clamping device 27. One cross-beam part 28 is pivoted to the box 22, to swing in a transverse vertical plane, while the other cross-beam part 29 is integral or otherwise fast with the box 22.

For transport, the cross-beam parts 28 and 29 are swung upwardly substantially at a right angle to each other and are connected together by means of hook and eye, the stub 23 being turned and held, by the clamp 27, in a position in which the rake heads are well clear of the ground.

WHAT WE CLAIM IS: —

1. A rotary rake head haymaking machine having driven rake heads mounted adjacent to each other on a cross-beam, in which two cross-beam parts are connected to a gear box, for the drive to the rake heads, and at least one cross-beam part is pivoted to the gear box so that the two cross-beam parts can be relatively swung one towards the other and both raised to a secured position in which the rake heads are clear of the ground for transport.

2. A machine according to claim 1, in which both cross-beam parts are pivoted to the gear box.

3. A machine according to claim 1, in which one cross-beam part is fast with the gear box and the gear box is pivoted for raising such cross-beam part clear of the ground.

4. A machine according to claim 3, in which the gear box is mounted on a bracket, for connection of the machine to a tractor, by a tubular pivot stub through which a driving shaft extends and which is journalled in a housing in which it can be turned and held in alternative angular positions.

5. A machine according to any one of claims 1 to 4, in which a hook and eye connection is provided for securing the cross-beam parts together when raised.

6. A machine according to any one of the foregoing claims, in which, on one or both cross-beam parts, one rake head has a supporting wheel in a fixed mounting and another rake head has a vertically sprung supporting wheel.

7. A machine according to claim 6, both cross-beam parts having a fixed-mounting wheel and a sprung wheel, in which one cross-beam part has its fixed-mounting wheel and the other cross-beam part its sprung wheel nearer to the gear box.

8. A rotary rake head haymaking machine substantially as described with reference to Figs. 1 to 3 or Fig. 4 of the accompanying drawings.

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Chartered Patent Agents.

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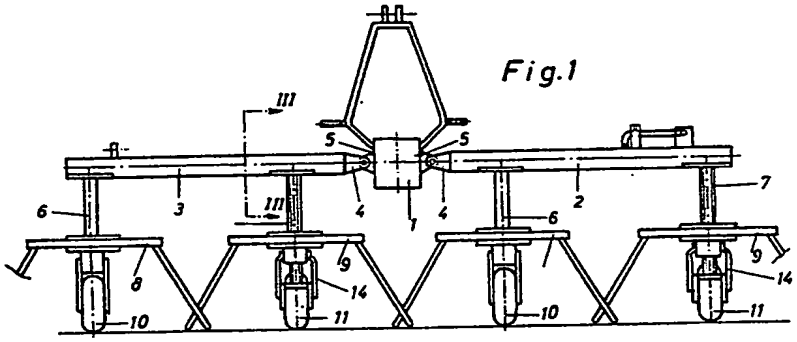
III
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Fig.1

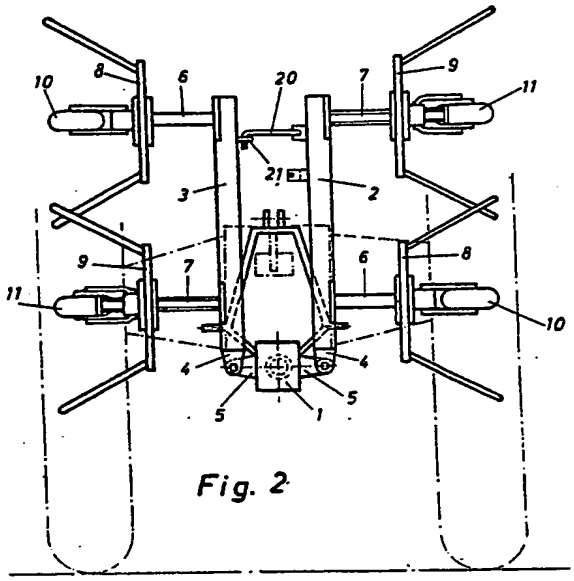
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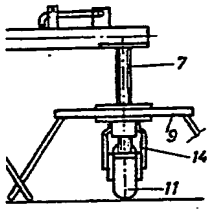
Fig. 2

1034911 COMPLETE SPECIFICATION

2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*

Sheets 1 & 2



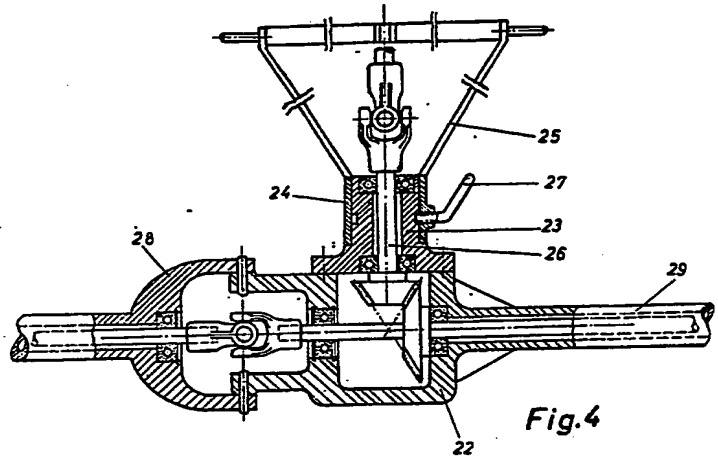
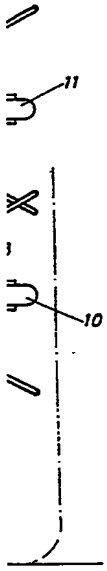


Fig.4



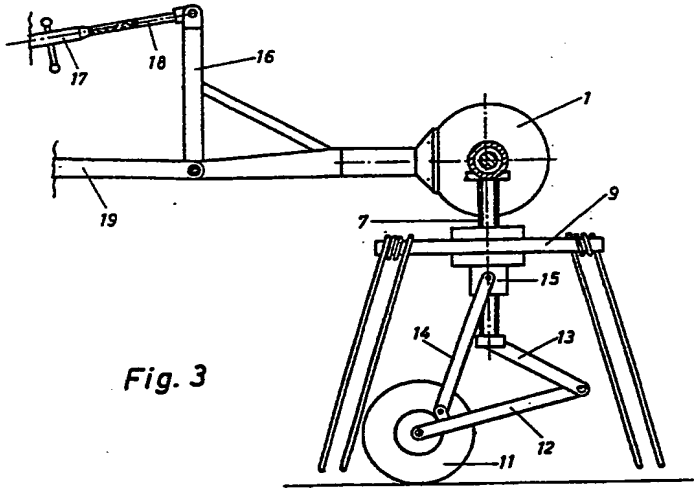


Fig. 3

1034911 COMPLETE SPECIFICATION
2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 1 & 2

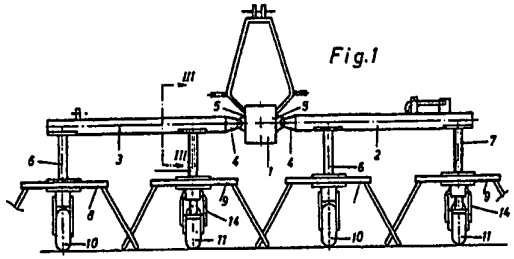


Fig.1

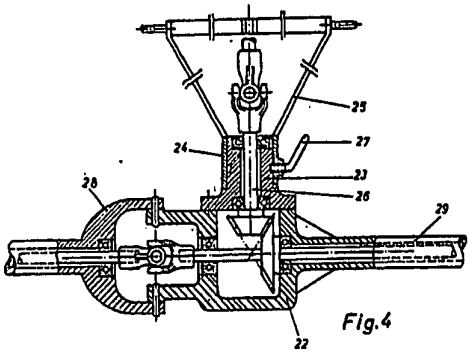


Fig.4

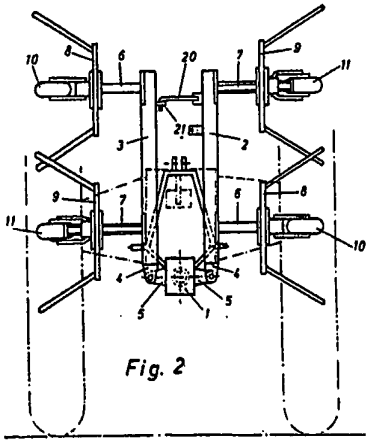


Fig. 2

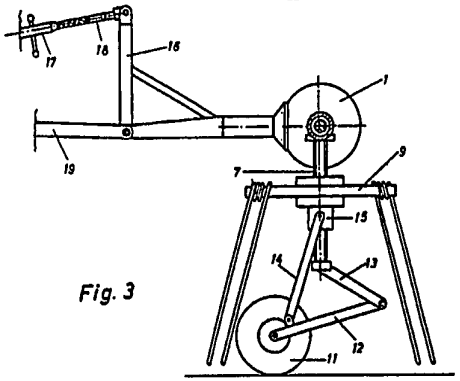


Fig. 3

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